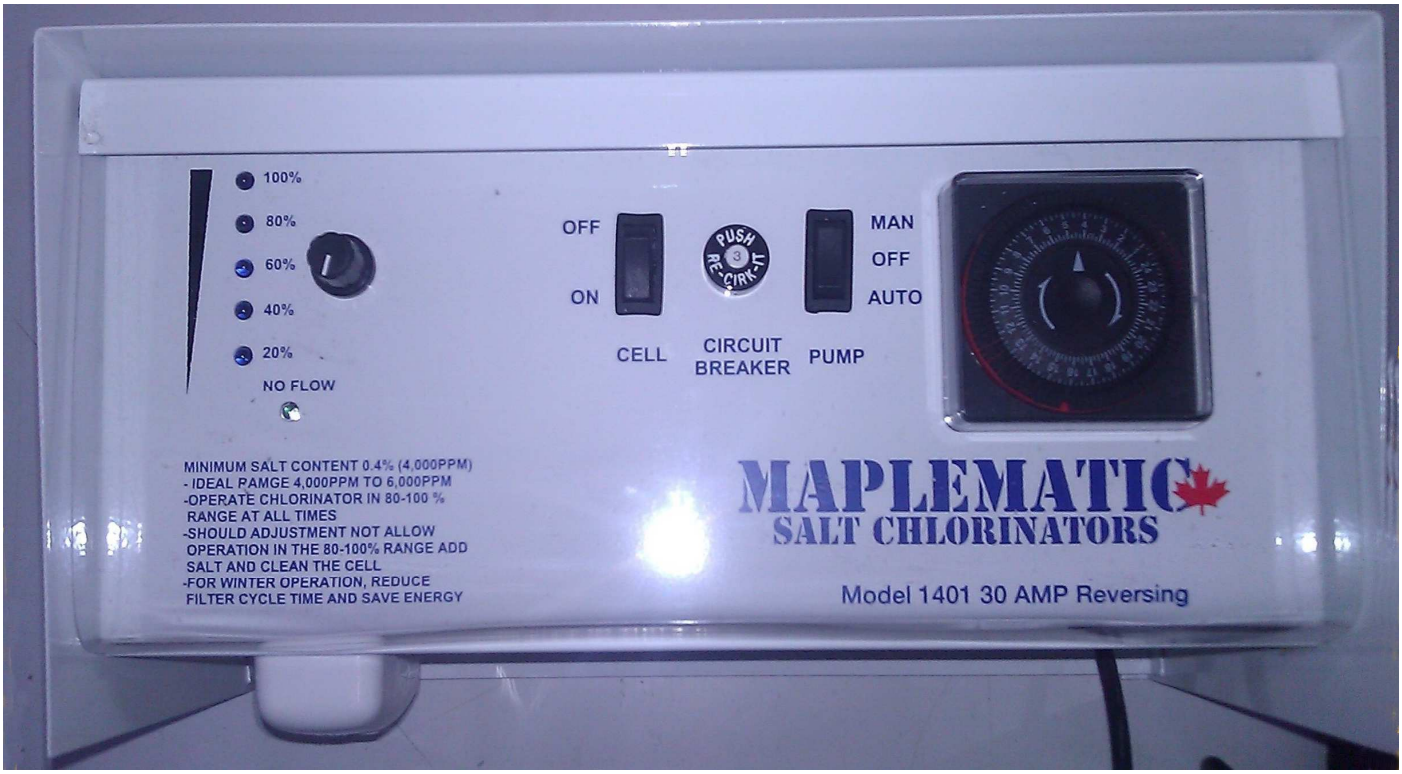
RAMZONICS Manufactured

Chlorinator Owner's Manual

Model 1400 20A Reversing Self-Clean
Model 1401 30A ReversingRamzonics Self-Clean



! WARNING
This equipment must be installed and serviced by a qualified technician.

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Improper installation can create electrical hazards which could result in property damage, serious injury or death.
Improper installation will void the warranty

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Ramzonics Salt Water Chlorinators

The RAMZONICS range of chlorinators will automatically maintain the chlorine level of your pool and eliminate problems associated with periods of very high or low chlorine levels. Fewer fluctuations in chlorine levels mean fewer fluctuations in pH levels. This adds up to more stable, balanced water.

Consistently maintained sanitizer levels in the pool water will prevent the growth of all common algae. A salt-water chlorinated pool requires much less attention than a chlorine pool.

Chlorine Generation

A small amount of natural salt is dissolved into the pool water. As the pool water flows through the electrolytic cell, electrolysis separates the salt water into its basic components, sodium and chloride. Pure chlorine gas is produced by this process and goes to work in the pool. Following this process the chloride and sodium re-bond and become natural salt again.

Description

The package consists of the chlorinator power pack (to supply power to the cell) and the Salt Cell (where the chlorine is produced).

Power Adjustment --------- | 4A Breaker ---------- | |--- Pump Power manual/Off/Timer
Power Output----------| | Mains On Off ---| | | |--- 24 hour Timer
| | | | | |

FRONT VIEW

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Cell Junction Box (cover removed) Pool Pump 240V Outlet

Manufactured in Australia For
POOL RANGER
4/1-3 Prosperity Parade,
Warriewood, NSW 2102
Ph 02 9979 3490
Safety Standards
This product is made in accordance with one or more of the listed test standards.
AS 60529 IP RATING 23, AS/NZS 3100:2009
AS/NZS 3136:2001 AS/ANZ 61558.2.6
NSW Department of Fair Trading
Approval Number N/xxxxx
Additional specifications refer to the Manual
Ramzonics Pty Ltd Moorebank NSW 2170

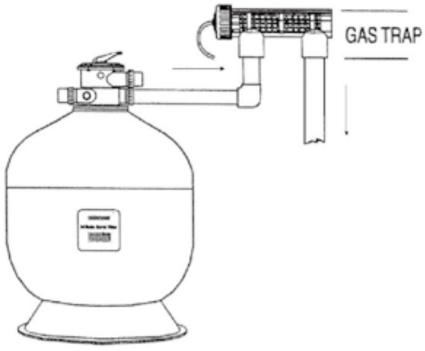
Bottom View mains Cord

The Power Pack

Your Chlorinator unit is weather protected to an IP34 rating (splash Resistant).
The power pack should be mounted with the wall bracket a minimum of 1 metre above ground level, maintaining a rear wall clearance of at least 1cm, and side, top and bottom clearance or minimum 150mm, located so that the cell power lead can reach the junction box.
It should be installed in a well-ventilated position ensuring that pool chemicals (especially acid) are not stored in the direct vicinity, as the fumes may damage vital components.
Plug the 3-pin power plug of your Chlorinator into a suitable 240 volt A.C power supply.
For safety the power point should be connected through a Residual Current Breaker installed to AS/NZS 3190
Plug the 3-pin power plug of your filter pump into the 240 volt A.C power point on the underside of your Chlorinator. Please ensure that only the one filter pump is plugged into the socket. Maximum Switchable power is 3/4HP.

The Electrolytic Cell

Your Chlorinator cell must be plumbed last in the pool pipework after all other pool equipment, just before the return to the pool, ensuring the cell can be removed. For maximum efficiency your cell should be installed with the water entering the cell housing at the end closest to the cell lead (see image below).
Ensure that the cell is positioned horizontally so that the gas bubbles formed by the cell will be trapped in the cell housing when the pump is turned off. If you are in any doubt about the gas trap requirements please contact your retailer or Pool Ranger Australia.
The cell lead must be connected to the junction box under the power pack. Connect blue to blue, brown to brown and black to black. Be sure to replace the junction box cover.



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Chemical Maintenance

Initial preparation

Ensure minimum salt level of 4000ppm. If the pool is new to saltwater acquire ideal salt level of 5000ppm by adding 50kg per 10,000 litres (a standard 50,000 litre pool would require 250 kg salt) at start up.
If salt level needs to be risen, after adding required salt super chlorinate pool with liquid chlorine or sodium dichloride (raise chlorine level to 3-4ppm). Turn the chlorinator cell to “off” and turn pump switch to “manual” to start filtration system for a minimum period of 24 hours.
After the 24 hour period, or if the salt is at the required level turn the cell switch to “on” and the pump switch to “manual” or “auto”.

RECOMMENDED LEVELS TO ENSURE OPTIMAL OPERATION
Pool chemistry should be tested at least once a week during summer months.

Salt Level

4000ppm - 6000ppm by weight, with 5000ppm being ideal (never below 4000ppm). All Ramzonics models are over-salt protected and can run with levels higher than 6000ppm (ie: sea water).

Free Chlorine

1.5ppm - 3.0ppm depending on the time of day and period of time since the chlorinator has been running. Adjust by altering the chlorine output level or the operating hours. If levels have become too low manual super chlorination may be required.

pH and Total Alkalinity

A pH of 7.2 to 7.6 and a total alkalinity of 80ppm - 120ppm unless advised otherwise by your pool professional. Fibreglass pool suppliers usually recommend a pH of 6.9 to 7.2. To lower the pH and total alkalinity add hydrochloric acid. To raise the pH and total alkalinity add sodium bicarbonate. These levels may not be achievable with some water supplies.

Stabiliser

40-80ppm, pool stabiliser, also called cyanuric acid helps the chlorine produced to last longer.
Without it in your water your chlorinator will need to run longer than it otherwise would.

Hardness

100 to 250 ppm. Levels higher than the recommended level will result in a less efficient cell in regards to its chlorine production, a more frequent need for cleaning, and a chance the cell will fail prematurely. To minimise chances of high hardness levels minimise or avoid the use of chemicals containing calcium, especially, “Calcium Hardness” and calcium-based granular chlorine.

Installation

Location

The unit should be installed in a sheltered location away from direct water spray and sunlight. Usually in the pump enclosure. The unit weighs 13kG and is balanced about its centre. The centre screw of the supplied "J" bracket must be screwed minimum 50mm into a timber stud or masonry with a suitable anchor. The outer screws are to prevent tipping. The top-rear lip of the cabinet hooks onto the "J" bracket.

Maximum external ambient temperature is 60C

Starting up

Once correctly installed and ensuring the minimum level of salt has been achieved, switch the chlorinator on at the main power supply. Position the pump switch to 'man', and once the pump has fully primed position the cell switch to 'on'.

The chlorine output indicator on your Ramzonics can be used to check the pool salt level. Turn the chlorine output control clockwise to the maximum setting (100%). If this cannot be achieved, check pool water for low salt level.

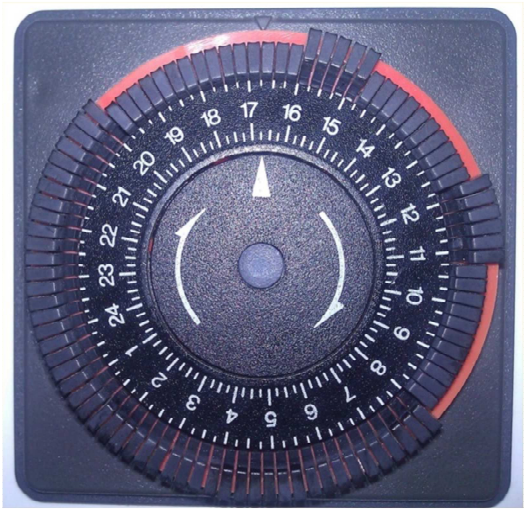
Set your daily operating time as per instructions below and set the chlorine output indicator at 80% - 100%. Test the free chlorine level in the pool water after 24-48 hours, adjusting the chlorine output to the desired level depending on your pools requirement. It is recommended your Chlorinator should be set to generate a free chlorine level of 1ppm to 3ppm.

Daily Operating Time

The required chlorinator operating time varies throughout the year. Long periods of hot weather require longer chlorinator operation time because the higher water temperature and increased sunlight break the chlorine produced by your Chlorinator down more quickly.
To be sure that your Chlorinator is being run for long enough, check your pool chlorine level regularly. If the chlorine reading is low, turn the chlorine output dial up (clockwise), and/or run the chlorinator and pool pump for longer.
If the chlorine reading is high, turn the chlorine output dial down (anticlockwise), or reduce the chlorinator and pool pump operating time.
It is recommended that your Chlorinator is run for a few hours in the evening and a few hours in the morning. Super chlorination can be achieved by running your Chlorinator overnight. This practice is recommended about once per fortnight during summer.

Setting the Timer

Select the operating hours by pressing the actuators inwards (towards the centre) on the timer in order for the timer to run for the corresponding time. The timer in the picture is set to run from 8-11am, 12 noon - 3pm, 4-8pm (red section). Set the time of day by turning the outer ring of the dial clockwise until the correct (current) time is set against the marker (the timer in the picture to the right is set at 9am).
Note: 24 hour time clock
Actual timer may vary



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Maintenance

Looking after your Chlorinator Power Pack

There are no user serviceable parts inside the unit. Do not carry out any maintenance or repair work other than that shown in this operating manual or as advised by Ramzonics, and only use parts recommended by Ramzonics. Incorrect parts and adjustments will breach warranty.

- Do not store pool chemicals in a confined space with your Chlorinator. The fumes will corrode & damage internal parts.
- Small insects can also enter cooling vents causing damage to vital components. To avoid this happening, routinely spray insect repellent to the surfaces around the power pack.

No Water Flow

Salt cells contain a sensor that checks for proper water flow and for safety purposes if adequate water flow is not sensed your Chlorinator will cease to produce chlorine until the problem is resolved.
If this situation occurs, the chlorine output indicator will drop to zero, and the “No Flow” LED will light until the flow is returned.

Settings for Pool Operations

The following is a guide to setting your Chlorinator to perform various pool operations.

OPERATION	240V SUPPLY	CELL SWITCH	PUMP SWITCH
Run pump & chlorinator via timer	ON	ON	AUTO
Run pump & chlorinator manually	ON	ON	MAN
Vacuum or backwash	ON	OFF*	MAN
Clean cell or cartridge filter	OFF & REMOVE PLUG	OFF*	OFF

* When turning cell switch to the ‘off’ position for backwashing, cleaning cartridge or cleaning the cell REMEMBER to turn cell back to the ‘on’ position when resuming normal filtration operation.
Similarly if you have turned any valves to the ‘closed’ position to clean the cell or the cartridge filter remember to turn them back to the ‘open’ position before resuming water flow.

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Looking after your cell

Your cell is a delicate piece of equipment and needs to be maintained correctly. There are several key points that need to be followed to avoid premature failure of your cell

- Ensure your pool water is correctly chemically balanced with a pH of 7.2-7.6, a total alkalinity level of 80-120ppm, and a calcium hardness level of 100-250ppm.
- Never operate with salt levels below 4000ppm, paying particular attention after high rainfall periods and remember not to neglect routine testing through the winter.
- Do not add salt through the skimmer box, only add directly in to pool water.
- When cleaning the cell (see below) only use cell cleaner obtainable from your local pool shop.

Never use hydrochloric acid or any instrument like a screwdriver to scrape contamination off the cell.

Cleaning the Cell

Your Chlorinator cell operates only efficiently when it is clean. To check your cell for cleanliness, disconnect the mains power supply, unscrew the nut at the top of the cell housing and remove the cell electrode.
A “dirty” electrode will have visible deposits of calcium and other matter built up.

Model 1400 & 1401 are Reversing models and must be used with cells designed for automatic reversing.
Under normal conditions this will automatically clean deposits off the cell, though other factors like high calcium hardness levels in your water could result in the occasional need for a manual clean.

To clean your cell, after removing it from the housing immerse in cell cleaner liquid obtainable from your local pool shop for five to 10 minutes until the cell appears clean. Agitating the cell while immersed will speed up the process, the less time the cell is spent in the liquid the better.
Rinse with fresh cold water before reassembling the cell into the housing.
When regularly cleaning the cell it is essential to use on the fastening ring nut and the cell o’ring a silicone based lubricant each time the cell is cleaned. This ensures that no leakage occurs from the cell housing.

IN THE EVENT OF PRODUCT FAILURE PLEASE CONTACT
Ramzonics OR ITS AGENTS FOR SERVICE DETAILS

Warranty Checklist

BEFORE you contact your agent or Ramzonics for a warranty claim please ensure you consider the following points:

1. Have you filled out your warranty registration?
2. Do you know what the warranty covers?
- The Power Pack (2 year conditional warranty)
- The Electrolytic Cell (2 year conditional warranty plus 36 month pro rata at RRP)
3. Have you correctly tested your pool water for salt level? Your nearest pool shop should be able to do this test for you - Ideal range for your Chlorinator is 5000 ppm-6000 ppm. Never below 4000 ppm.
4. Have you cleaned your cell as per the manufacturer's instructions?
5. Have you read and understood the Chlorinator operating manual?
6. Is your Chlorinator correctly installed as per the directions in the operating manual?
7. Do you have a copy of the receipt from either the pool builder or retailer where you purchased the Chlorinator.
8. Pro rata warranty pricing is based on the recommended retail price at time of claim.

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Warranty

Your Chlorinator is manufactured to the highest standards employing the latest technologies and carries the following warranty should a fault occur due to faulty manufacture or materials

IMPORTANT:
Two year conditional manufacturer's warranty which covers faulty manufacture or material. This warranty covers DOMESTIC USE ONLY. Warranty does not cover 24hr and Commercial installations, such as public pools, hotels, schools, health clubs, hospitals, etc. Warranty for this type of use is 12 months only.

Should a fault covered by warranty occur the purchaser must in the first instance contact the supplier of the Ramzonics product, a Service Agent or Ramzonics direct. Ramzonics warrant the original purchaser of the Chlorinator Power Pack for a period of 24 months from the DATE OF PURCHASE. This warranty only applies to failure caused by faulty manufacture or materials.
Ramzonics also warrants the original purchaser of the Ramzonics electrolytic cell against faults caused through manufacture or materials for a period of 24 months from the DATE OF PURCHASE. Ramzonics also warrant the electrolytic cell for a further 36 months to be repaired or replaced at a monthly pro-rata price from the DATE OF PURCHASE at the Recommended Retail Price.

The warranty is void if the following are deemed to apply or have not been adhered to:

1. The cell not being cleaned regularly. Refer to page 6 of this manual. This does not apply to the self-cleaning model.
2. A cell blocked or damaged with calcium causes the cell to fail prematurely, and is not covered by this warranty. This does not apply to the self- cleaning model.
3. Damage to the electrolytic cell resulting from:
    (a) Matters beyond manufacturer's control.
    (b) The cell or power pack are installed incorrectly by any person other than a person authorised to do so by the manufacturer or its agents.
4. The power pack must not be connected to a power supply other than 240 volt 50 Hz. Never plug more than one pool pump into your Chlorinator.
5. Water above the temperature of 45 degrees Celsius must not flow through the cell.
6. Water must flow freely through the cell when turned on.
7. The chlorinator must not be serviced by any other person other than the person authorised by Ramzonics.
8. The cell must never be cleaned other than with a recommended cell cleaner. Never use concentrated acid.
9. Running the chlorinator in less than 4000ppm salt in your pool will destroy the anode coating voiding warranty.
10. Damage during freight.
11. Noncompliance with installation instructions.
12. Damage by foreign objects (ie: insects).
13. Damage caused by chemicals being stored directly under or near the power pack.
14. Acts of God (ie: storms, lightning strikes, floods. etc.).
15. Warranty does not cover unauthorised alterations, modifications or work carried out by unauthorised technicians.
16. The manufacturer reserves the right to refuse a warranty claim if in its opinion the claim cannot be justified. If the repair is to be carried out outside the manufacturer or its authorised service agents, a service fee is applicable. It is the customer's responsibility for the cost of freight both ways in all other circumstances. This service fee cost is available on request from the manufacturer or its agents.
17. No warranty is applicable without proof of purchase.
18. This warranty is applicable to workmanship and materials only. The manufacturer will replace at no charge all parts returned freight paid, which display faulty workmanship or materials. The manufacturer accepts no responsibility for loss, damage or injuries to person or property arising from warranty failure of equipment, or installation of that equipment. Except with the authority of the manufacturer any replacement shall be provided only by the manufacturer or its authorised distributors and this warranty shall not extend to any expenditure otherwise incurred.

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Products

This document refers to Chlorinator manufactured saltwater chlorinators

Model 1400 (20Amp) and 1401 (30Amp).

Product Description:

Saltwater Chlorinator

This product is a transformer isolated, Extra Low voltage, phase controlled, DC reversing, chlorinator (power supply) for use with a suitable saltwater chlorinating cell.

Dimensions:

360x200x200mm

Weight:

Model 1400	20A, Nominal 5Kg
Model 1401	30A, Nominal 8Kg

The unit complies with standards:

AS/NZS 3100:2009	General construction & insulation
AS/NZS 3136:2001	Swimming pool equipment
AS/NZS 311:2009	Circuit Breakers
AS/NZS 61558.2.6	Isolating Transformers
AS/NZS 3123	Connectors
AS/NZS 3191	Flexible Cords
AS/NZS 3190	RCD Installation
AS 60529	IP Standard. IP34 Splash resistant

Input Power Rating:

Complete unit including attached pool pump:

230VAC +/- 10% at 10A maximum

Chlorinator:

Part Number 1400 (20A):	230VAC +/-10% at 225VA
Part Number 1401 (30A):	230VAC +/-10% at 265VA

Pool Pump Motor: 3/4HP, 500VA

Output Power Rating

Cell: 6VDC Reversing at 20A, 30A maximum (dependant on Salt content)

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